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2.

Short period weather forecasts were always used in planning flying activities. That is to say the short period forecasts were used to verify the long-range forecasts. For that reason, the Chief of the Meteorological Station of OATB (Independent Air Technical Battalion), and at higher levels Chief of meteorological services, toward the end of each day at a specified time, personally reported to his superior with a report which showed the expected weather for the following day. The commanding officer and his executive officer signed this weather report, indicating the exact time and date their signatures were affixed. The forecast was then handled as a secret document. After receiving the forecast for the following day, the commanding officer reviewed his plans for that day and made a final decision whether to alter such plans or to carry them out as previously planned. Besides this, the chief of the meteorological service briefed the pilots, just before the take-off, on the condition of the weather for the following six hours. During the flight operations, the chief of meteorological service reported, every two hours, to the flight operations officer the weather to be expected during the following six hours, particularly if he expected any changes from the previous forecasts. The flight operations officer, who was usually the commanding officer or his deputy, made his decisions as guided by these periodic reports. Also during the flights, the weather officer on duty with the flight operations officer, questioned all crews and pilots, on weather existing in flight and passed this information to the meteorological station. The chief of meteorological service in return passed this information to the flight operations officer. In most cases the chief of the meteorological service personally took part in the flights to observe the weather conditions for himself.

At all times the commanding officer used the weather forecasts prepared at the meteorological station which was served by the Independent Air Technical Battalion.

The meteorological station "OATB" receives the weather information from various stations; for example: local observatory; international weather signals, relating to ETMER, originating in various parts of the world; weather radiograms transmitted from various parts of the USSR; weather reconnaissance aircraft; interrogation of air crews returning from various flight missions, and the exchange of weather information between meteorological stations (OATB). All information thus collected was entered on the weather maps.

In the event the flight was of a long-range nature (that is a flight from one military district to another) and the meteorological station OATB could not provide an exact weather forecast for the base of destination, the base of destination was asked to provide a forecast for the expected time of arrival there. Besides the above, each lower level meteorological station provided each higher level meteorological station with reports and forecasts all the way up the line. Also all crews were furnished with a weather bulletin just prior to take off, showing the weather conditions along their course of flight all the way to their place of destination.

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In the VVS, not only pilots studied and knew meteorology but other officers as well. The following personnel studied meteorology: pilots, navigators, officers of operations and intelligence service, and others. All of the above mentioned categories of officers studied meteorology in the military air force schools, institutions, academies and service schools. Particular attention, in the military service, was given to the flying personnel, consequently each pilot could read and fully understood the meteorological map; understood international meteorological code and knew symbols on the map which showed the weather conditions.

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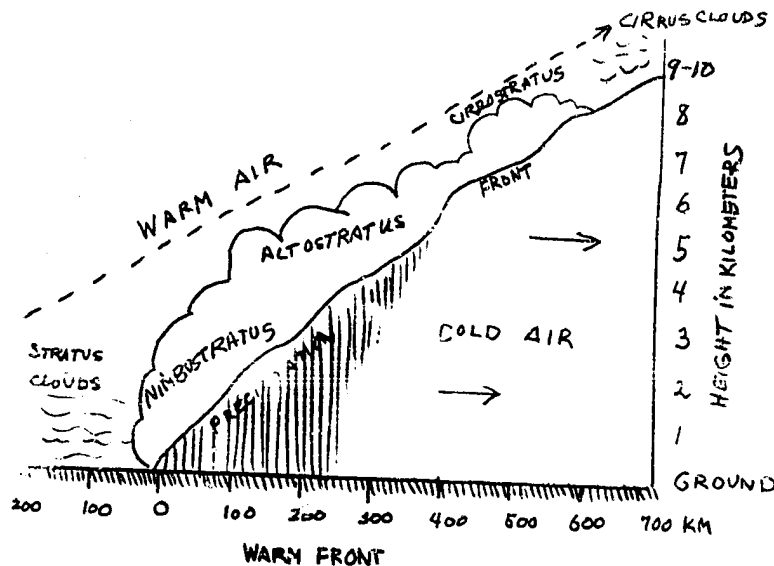
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He knew various air masses, for example: KPV Continental Polar Air Mass; KV Continental Air; KPV-Continental Tropical Air, etc.

They also knew various meteorological elements and their characteristics. Such elements included warm front, cold front, (this last one was decided in two categories; cold front 1st category and cold front 2nd category), occlusion of the cold front, occlusion of the warm front, cyclone, anti-cyclone, etc.

Knowledge of these elements by the officers described above, can be further clarified by the following sketch and its descriptions: Prior to the approach of a warm front, appear cirrus clouds, at a height of about 9-10,000 meters.



They appear about 700 kilometers ahead of the warm front. Cirrostratus overcasts precede the warm front by between 450 and 600 kilometers. Altostratus clouds precede the warm front by from 200 to 450 kilometers, and between 200 to 250 kilometers appear "nimbostratus clouds" together with precipitation. After the warm front comes the stratus clouds at a height of about 200 meters and the weather becomes better, heavy rain changes to shower and finally stops altogether. "Front" is a word describing the border which divides two different masses of air. Cold air precedes the warm front.

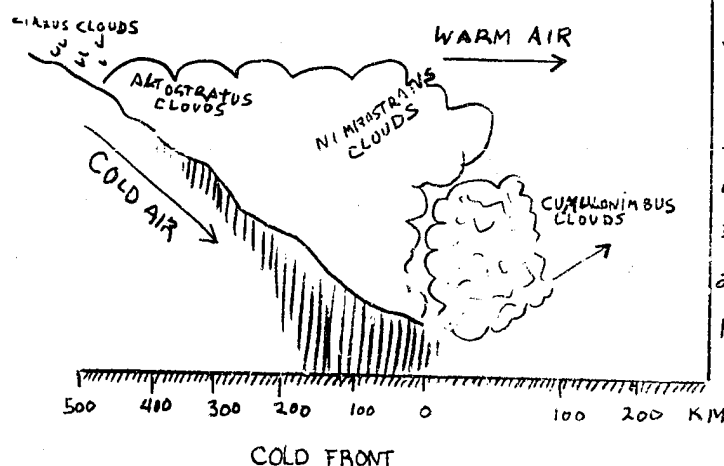
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The warm air precedes the cold front. Under such conditions the cold air gets under the warm air and raises it.

About 100 kilometers ahead of the cold front appear cumulonimbus clouds which cause occasional showers, and together with the cold front appear nimbostratus clouds causing heavy rain. The cold front usually precedes such a rain by about 200 kilometers. After the rain comes the altostratus clouds, and about 400 to 500 kilometers. At times, above the fronts, all kinds of air masses could exist, the variety of which determines the speed of the front.

Besides the above mentioned atmospheric fronts there is always an occlusion which follows either one. It results from the cold air mass mixing with the warm air mass while the cold is lifting the warm air. The occlusion which follows the warm front usually results from a less cold air being lifted by colder air, and rainy weather follows; occlusion which follows the cold front results in an occasional shower by the same process as above, that is by colder air getting under the warmer air and lifting it up.

Flying personnel are also familiar with characteristics of cyclones and anticyclones. Cyclone zone of a low pressure always brings bad weather, precipitation of intermittent character, and at times just a drizzle. Anticyclone zone of high pressure usually brings about very clear weather and at times of long duration. Flying personnel can usually define various clouds and other elements of weather not described in this report. The flying personnel are always weather conscious, particularly while in flight when they notice a change in weather conditions for the worse, they immediately radio their base to relay this information. Otherwise they report on weather conditions only when requested to do so by their operations officer.

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In the SAF, the system used in getting weather information was what they called "Mutual Weather Information Exchange", that is all meteorological stations exchanged information reciprocally.

At times meteorological stations at a higher level depended on weather information received from a station of a lower level when the latter was located in the area about which the former desired information.

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